

**AMENDMENTS TO CLAIMS**

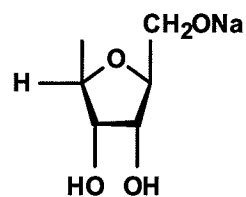
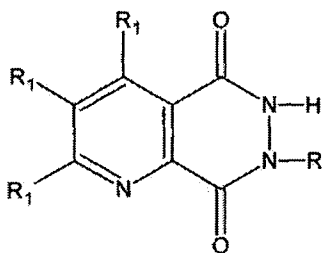
This listing of claims will replace all prior listings and versions of claims in this application.

**Listing of Claims:**

1-13. (Cancelled)

14. (New) A method of treating diseases caused by disorders of nitrenergic system and/or dopaminergic system of an organism comprising administering of an active ingredient having normalizing effect with respect to nitrenergic and dopaminergic systems, wherein the active ingredient is present in a pharmaceutically acceptable carrier in an amount sufficient for effecting said systems and said active ingredient is

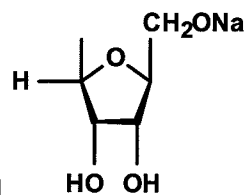
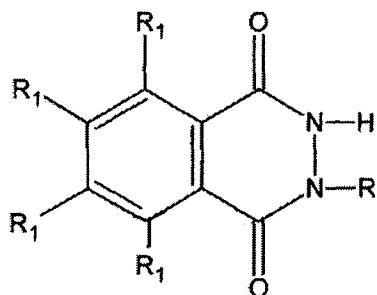
a derivative of pyrido[2,3-d]-6H-pyridazine-5,8-dione, having a general formula



where R is selected from the group consisting of Li, Na, K, and

R<sub>1</sub> is selected from the group consisting of -H, -NH<sub>2</sub>, -Br, -OH, -COOH, or the pharmacologically acceptable salts thereof;

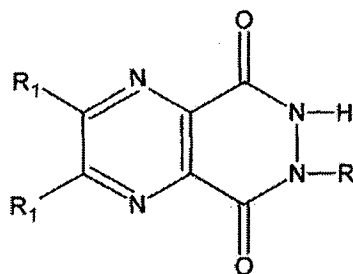
a derivative of benzo[d]-3H-pyridazine-1,4-dione, having a general formula

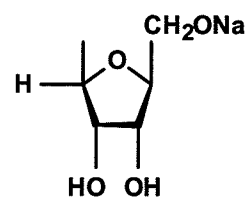


where R is selected from the group consisting of Li, Na, K, and

R<sub>1</sub> is selected from the group consisting of -H, -NH<sub>2</sub>, -Cl, -OH, -COOH, or the pharmacologically acceptable salts thereof;

a derivative of pyrazine[2,3-d]-6H-pyridazine-5,8-dione, having a general formula

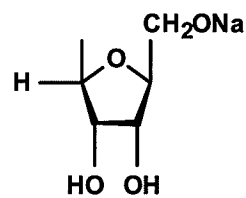
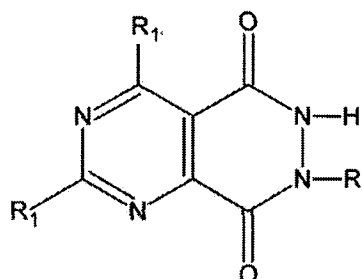




where R is selected from the group consisting of Li, Na, K, and

R<sub>1</sub> is selected from the group consisting of -H, -NH<sub>2</sub>, -Br, -OH, -COOH, or the pharmacologically acceptable salts thereof; or

a derivative of pyrimido[4,5-d]-6H-pyrodazine-5,8-dione, having a general formula



where R is selected from the group consisting of Li, Na, K, and

R<sub>1</sub> is selected from the group consisting of -H, -NH<sub>2</sub>, -Br, -OH, -COOH, or the pharmacologically acceptable salts thereof.

15. (New) The method as claimed in claim 14, wherein said active ingredient is selected from the group consisting of:

sodium salt of 7-(P-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of 4-amino-7-(P-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of 3-bromo-7-(P-D-ribofuranosile)pyrido[2,3- d]-6H-pyridazine-5,8-dione,  
disodium salt of 4-hydroxy-7-(P-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione,  
disodium salt of 3-carboxy-7-(P-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione,  
lithium salt of pyrido [2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of pyrido [2,3-d]-6H-pyridazine-5,8-dione,  
potassium salt of pyrido [2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of 2-(P-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione,  
sodium salt of 5-amino-2-(p-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione ,  
sodium salt of 6-amino-2-(3-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione,  
sodium salt of 5-chloro-2-(P-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione,  
disodium salt of 5-hydroxy-2-(P-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione ,  
lithium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione ,  
sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione,  
potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione,  
disodium salt of 5-hydroxy-benzo[d]-3H-pyridazine-1,4-dione, and  
disodium salt of 6-carboxy-benzo[d]-3H-pyridazine-1,4-dione,  
sodium salt of 7-(P-D-ribofuranosile)pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of 2-amino-7-(P-D-ribofuranosile)pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of 3-amino-7-(P-D-ribofuranosile)pyrazine[2,3-d]-6H-pyridazine-5,8-dione,

sodium salt of 3-bromo-7-(P-D-ribofuranosile)pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
disodium salt of 2-hydroxy-7-(p-D-ribofuranosile)pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
disodium salt of 2-carboxy-7-(P-D-ribofuranosile)pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
lithium salt of pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
potassium salt of 3-bromo-pyrazine[2,3-d]-6H- pyridazine-5,8-dione,  
sodium salt of 2-amino-pyrazine[2,3-d]-6H-pyridazine-5,8-dione,  
sodium salt of 7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione ,  
sodium salt of 2-amino-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione,  
sodium salt of 4-amino-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione,  
sodium salt of 2-bromo-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione,  
sodium salt of 4-hydroxy-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione,  
sodium salt of 4-carboxy-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione,  
lithium salt of pyrimido[4,5-d]-6H-pyridazine-5,8-dione ,  
sodium salt of 2-amino-pyrimido[4,5-d]-6H-pyridazine-5,8-dione ,  
potassium salt of 4-bromo-pyrimido[4,5-d]-6H-pyridazine –5,8-dione .

16. (New) The method as claimed in claim 14, wherein the method is used in treatment of the group consisting of mammals and human beings of one or more diseases selected from the group consisting of disorders caused by drug abuse, dependences on narcotics, alcohol and nicotine, insomnia, sexual disorders, sexual dysfunction, gastro-

intestinal disorders, psychoses, affective disorders, inorganic psychoses, personality disorders, psychiatric disorders of mood, schizophrenia and schizoaffective disorders, polydipsia, bipolar disorders, dysphoric mania, anxiety and associated diseases, obesity, bacterial infections of the central nervous system, meningitis, disorders of learning, disorders of memory, Parkinson's disease, neurodegenerative diseases, Alzheimer's disease, depression, extrapyramidal side effects of neuroleptics, hypothalamic-pituitary effects, vascular and cardiovascular diseases, dystonia, dyskinesia, hyperkinesia, dementia, ischemia, motion disorders, hypertension, allergies and inflammations.

17. (New) The method as claimed in claim 14, wherein the method is used in treatment of disorders caused by dystonia and preferably said active ingredient is lithium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione or sodium salt of 2-amino-pyrimido[4,5-d]-6H-pyridazine-5,8-dione.

18. (New) The method as claimed in claim 14, wherein the method is used in treatment of disorders caused by ischemia and preferably said active ingredient is sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 5-amino-2-(p-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione or potassium salt of 4-bromo-pyrimido[4,5-d]-6H-pyridazine-5,8-dione.

19. (New) The method as claimed in claim 14, wherein the method is used in treatment of dyskinesia and hyperkinesia and preferably said active ingredient is sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 5-amino-2-(p-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione or sodium salt of 3-bromo-7-(P-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione.

20. (New) The method as claimed in claim 14, wherein the method is used in treatment of hypertension and preferably said active ingredient is sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, lithium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione or sodium salt of 5-chloro-2-(P-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione, disodium salt of 5-hydroxy-benzo[d]-3H-pyridazine-1,4-dione.

21. (New) The method as claimed in claim 14, wherein the method is used in treatment of diseases caused by allergies and preferably said active ingredient is sodium salt of 5-amino-2-(p-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 6-amino-2-((3-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione or lithium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, disodium salt of 5-hydroxy-benzo[d]-3H-pyridazine-1,4-dione.

22. (New) The method as claimed in claim 14, wherein the method is used in treatment of sexual disorders and/or sexual dysfunction associated with disorders of dopaminergic system

and preferably said active ingredient is sodium salt of 2-(P-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 4-amino-7-(P-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione, potassium salt of pyrido[2,3-d]-6H-pyridazine-5,8-dione, lithium salt of pyrazine[2,3-d]-6H-pyridazine-5,8-dione or sodium salt of 2-amino-pyrimido[4,5-d]-6H-pyridazine-5,8-dione.

23. (New) The method as claimed in claim 14, wherein the method is used in treatment of disorders caused by substances abuse, in particular, narcotics, alcohol and nicotine, and preferably said active ingredient is sodium salt of 7-(P-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione, lithium salt of pyrido[2,3-d]-6H-pyridazine-5,8-dione, sodium salt of 6-amino-2-(3-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, potassium salt of 4-bromo-pyrimido[4,5-d]-6H-pyridazine-5,8-dione or potassium salt of 3-bromo-pyrazine[2,3-d]-6H-pyridazine-5,8-dione.

24. (New) The method as claimed in claim 14, wherein the method is used in treatment of disorders caused by morphine abstinence and said active ingredient is lithium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione or sodium salt of 6-amino-2-(3-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione.



25. (New) The method as claimed in claim 14, wherein the active ingredient is used as a neuroprotector for protection of a nervous system of stress associated with vascular and cardiovascular diseases and preferably said active ingredient is potassium salt of 3-bromo-pyrazine[2,3-d]-6H-pyridazine-5,8-dione, sodium salt of 2-amino-pyrazine[2,3-d]-6H-pyridazine-5,8-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione or potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione.

26. (New) The method as claimed in claim 14, wherein the active ingredient is used for normalization of psychophysiological status by reducing the anxiety and depression and preferably said active ingredient is lithium salt of pyrido [2,3-d]-6H-pyridazine-5,8-dione, lithium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, disodium salt of 2-hydroxy-7-(p-D-ribofuranosile)pyrazine[2,3-d]-6H-pyridazine-5,8-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione or lithium salt of pyrimido[4,5-d]-6H-pyridazine-5,8-dione.

27. (New) The method as claimed in claim 14, wherein the method is used in treatment of neurodegenerative diseases and preferably said active ingredient is potassium salt of 4-bromo-pyrimido[4,5-d]-6H-pyridazine-5,8-dione, sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione, potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione or sodium salt of 6-amino-2-(3-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione.